Methods & Data Comparability Board

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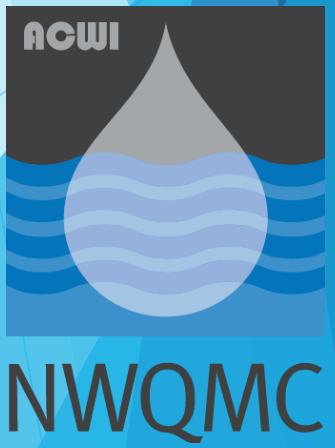
Current Workgroup Efforts

- Biological Assessment & Comparability
  - NEMI
- Sensors Uncertainty



Biological Assessment & Comparability Workgroup

- Step 1: Define fields necessary to provide baseline information on method comparability (complete)
- Step 1b: Why are doing this?
  - Methods repository (general)
  - Methods registry (Water Quality Portal)
- Step Z: Remove/move protocols from NEMI?

NEMI
National Environmental Methods Index
NWQMC

First page ("Comparison" page)

Method ID	Method Source	Method name	Waterbody type	Sampling reach length	Gear	Field or Lab Pick?	Target No. Individuals	Index period
IL Invert	Illinois	Illinois Invertebrate Collection Method	Wadeable stream	100m min.	Rectangular frame net, 595um mesh	Lab	300	June 1 - October 15
WI Invert	Wisconsin DNR	Wisconsin Invertebrate Collection Method	Wadeable stream	Single habitat (riffle)	D frame net, 500um mesh	Lab	125	Primarily fall (post Sept.)

NEMI
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Enhanced method comparability page

Official Method Name	**Illinois benthic invertebrate collection method for streams**	**Illinois benthic invertebrate collection method for streams**	**Illinois benthic invertebrate collection method for streams**
Current Revision	2001	2001	2001
Waterbody Type	Wadeable stream	Wadeable stream	Wadeable stream
Gear	Rectangular frame net, 595um mesh	Rectangular frame net, 595um mesh	Rectangular frame net, 595um mesh
Method Subcategory	Population/Community	Population/Community	Population/Community
Method Source	Illinois DNR	Illinois DNR	Illinois DNR
Citation	Illinois Big Book of Bugs	Illinois Big Book of Bugs	Illinois Big Book of Bugs
Brief Method Summary	(This is not necessarily for this method; cut from another method as a space filler) Sampling of benthic macroinvertebrates begins at the downstream portion of the reach and proceeds upstream. Using a triangular kicknet with a 400 micron mesh and removeable cup, the reach is traversed in a zigzag pattern going from bank to bank and always heading upstream for precisely 3 minutes. The net should continuously be in contact with the substrate and should always be directly downstream of the operator. Large rocks or those deeply embedded should be rubbed using your hand to loosen the organisms. At the end of three minutes, the net should be quickly lifted from the current. The complete sample is then washed into a container(s) with a squeeze bottle and the net checked carefully for organisms.	(This is not necessarily for this method; cut from another method as a space filler) Sampling of benthic macroinvertebrates begins at the downstream portion of the reach and proceeds upstream. Using a triangular kicknet with a 400 micron mesh and removeable cup, the reach is traversed in a zigzag pattern going from bank to bank and always heading upstream for precisely 3 minutes. The net should continuously be in contact with the substrate and should always be directly downstream of the operator. Large rocks or those deeply embedded should be rubbed using your hand to loosen the organisms. At the end of three minutes, the net should be quickly lifted from the current. The complete sample is then washed into a container(s) with a squeeze bottle and the net checked carefully for organisms.	(This is not necessarily for this method; cut from another method as a space filler) Sampling of benthic macroinvertebrates begins at the downstream portion of the reach and proceeds upstream. Using a triangular kicknet with a 400 micron mesh and removeable cup, the reach is traversed in a zigzag pattern going from bank to bank and always heading upstream for precisely 3 minutes. The net should continuously be in contact with the substrate and should always be directly downstream of the operator. Large rocks or those deeply embedded should be rubbed using your hand to loosen the organisms. At the end of three minutes, the net should be quickly lifted from the current. The complete sample is then washed into a container(s) with a squeeze bottle and the net checked carefully for organisms.
Scope and Application	This protocol is appropriate for the sampling of benthic macroinvertebrates from wadeable streams.	This protocol is appropriate for the sampling of benthic macroinvertebrates from wadeable streams.	This protocol is appropriate for the sampling of benthic macroinvertebrates from wadeable streams.
Habitats Sampled	Use the mean water width of the sample reach and relative amounts of each of the pertinent habitat types within the bottom-zone and bank-zone to determine how to allocate the 20 jabs	Use the mean water width of the sample reach and relative amounts of each of the pertinent habitat types within the bottom-zone and bank-zone to determine how to allocate the 20 jabs	Use the mean water width of the sample reach and relative amounts of each of the pertinent habitat types within the bottom-zone and bank-zone to determine how to allocate the 20 jabs
Interferences			
Quality Control Requirements	Proper sample labelling; net rinsed thoroughly between samples; Triplicate samples are taken at 10% of sites each year; 10% of sites are revisited each year to assess temporal changes; CABIN implements strict QAQC on sample processing (eg. 95% sorting efficiency) and taxonomic identifications; and a voucher reference collection is held in the EC lab.	Proper sample labelling; net rinsed thoroughly between samples; Triplicate samples are taken at 10% of sites each year; 10% of sites are revisited each year to assess temporal changes; CABIN implements strict QAQC on sample processing (eg. 95% sorting efficiency) and taxonomic identifications; and a voucher reference collection is held in the EC lab.	Proper sample labelling; net rinsed thoroughly between samples; Triplicate samples are taken at 10% of sites each year; 10% of sites are revisited each year to assess temporal changes; CABIN implements strict QAQC on sample processing (eg. 95% sorting efficiency) and taxonomic identifications; and a voucher reference collection is held in the EC lab.

NEMI
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Method Summary Page info

Required Fields

- Habitat/s sampled
- Number of individual subsamples composited
- Target # organisms
- Total sampling area
- Field preservative
- Taxa included/highest resolution
- Laboratory subsample?
- Large/rare pick?

Optional or supplemental fields

- Project or Stream Type
- Base method? (Ex. EPA RBP)
- No. people
- Field sieved?
- Other site-level sampling constraints
- Laboratory notes (equipment, sorting notes, count info, etc.)

Next steps

- Reach final consensus on fields
- Continue populating NEMI w/ base method info
- Modify database structure (late summer-fall 2018)
- Produce prototype for Conference, solicit comments (and methods?) from attendees
- Data management workshop at conference?

Sensors Uncertainty

Analyte	Probe type	Uncertainty #1	Uncertainty #2	Uncertainty #3	Uncertainty #4	Uncertainty #5
temp	thermistor	Calibration Standard /	Temperature of the			
	optical(?)					
pH	electrochemical (?)	Calibration Standard /	Drift of the Reference	Degradation of pH Bulb	Noise from electronics	
DO	galvanic					
	polarographic					
	optical	Linearity of the sensor across pressure & temperature	Calibration Standard / Reference Accuracy	Abrasion/Hydration of the Foil	LED Temperature	Electronic Noise
SC						
NO3	optical					
	ion selective electrode	Calibration Standard /	Drift of the Reference	Degradation of electrode	Noise from electronics	
	wet chem (include?)					
DOP	wet chem (include?)					
Turbidity	optical	Calibration Standard / Reference Accuracy	Linearity of the sensor across concentration	Linearity of the sensor across temperature	External Light interference	Electronic Noise
	other?					

ACWI

NWQMC

Sensors Uncertainty

- Next steps…
- How to present info?
  - Workshop at conference
  - Website
  - White paper
  - Other?
  - Drawback to all these options are